Claims

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What is claimed is:

1. A method for designing a text symbol set to withstand partial obscuration wherein
   a. an initial character set is created;
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   b. at least three regions of each character are selected;
   c. for each character individually, one of the at least three regions of the character is obscured;
   d. compute the correlation coefficients for all selected regions;
   e. adjust the character set design to produce maximum overall character
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   detection accuracy with one region obscured.

2. A method for region design in a regionalized character recognition system comprising:
   a. selecting a character set design;
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   b. defining at least three sub-regions for each character template;
   c. for each character, obscure one of the three regions;
   d. compute the correlation coefficients for the entire character set
   e. adjust the regions shape and overlap to produce maximum overall character detection.
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3. A method for weight learning in a regionalized character recognition system comprising:
   a. selecting a character set design;
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   b. defining at least three sub-regions for each character template;
   c. for each character, obscure one of the three regions;
   d. compute the correlation coefficients for the entire character set

e. adjust the weights to produce maximum overall character detection.

1060   4. The method of claim 1 wherein the sub-regions are selected as pixels within the
input image.

5. The method of claim 2 wherein the weights are character feature template
weights.

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6. The method of claim 1 wherein the a-priori estimates of application regional
obscuration probability characteristics are used in evaluating maximum overall
character detection.

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